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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOORU MORITA, KIYOSHI IDA, and HAJIME FUNATSU

Appeal 2009-002981
Application 10/684,836
Technology Center 1700

Decided: January 26, 2010

Before BEVERLY A. FRANKLIN, LINDA M. GAUDETTE, and JEFFREY B. ROBERTSON, *Administrative Patent Judges.*

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1, 8, and 10. Claim 6 has been allowed. Ans. 16. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Claim 1 is representative of the subject matter on appeal and is set forth below:

1. A porous multilayered hollow fiber for outer side pressed filtration of solid-liquid separation treatment, the filtration being performed from the outer surface side thereof toward the internal surface side, comprising:

a supporting layer constituted of an expanded porous polytetrafluoroethylene tube (PTFE), and a filtration layer including a porous polytetrafluoroethylene (PTFE) sheet formed by expanding a resin uniaxially or biaxially apart from the supporting layer, the filtration layer being adhered to the outer surface of the supporting layer to form a multilayered body, and pores in the supporting layer three-dimensionally communicating with pores in the filtration layer,

wherein pores surrounded by fibrous frameworks in the filtration layer are smaller than those of the supporting layer, and

the mean maximum length of pores (L) in the outer surface of the filtration layer is designed such that (X) and (Y) fall within the range defined by plotting the following 10 points on the XY plane, where (X) is a particle diameter of particles captured when the particle trapping ratio is equal to or more than 90% in the case where the filtration is done under an elevated pressure of 0.1 MPa, and (Y) is a value designated as RFL obtained by dividing (L) by (X), that is, (Y=L/X): (X, Y) = (0.055, 2) (1, 1.5) (2, 1) (5, 0.5) (10, 0.3) (10, 4) (5, 6) (2, 10) (1, 15) (0.055, 25).

The prior art relied upon by the Examiner in rejecting the claims on appeal is (English translations are used for each of the following references):

Morita	JP-3221095 B	Aug. 17, 2001
Nitori	JP-63028406	Feb. 6, 1988
Yoshida	JP-2000-107758	Apr. 18, 2000

Appellants rely upon evidence as listed in their Evidence Appendix on page 16 of their Brief, and on a Declaration filed on June 6, 2007 (we need not discuss this Declaration in making our determination herein).

THE REJECTION(S)

1. Claims 1, 8 and 10 are rejected under 35 U.S.C. 112, second paragraph.

2. Claims 1, 8 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Morita in view of Yoshida or Nitori.[1]

ISSUE

1. Have Appellants shown reversible error in the Examiner's determination that the following aspect of claim 1 is indefinite:

> the mean maximum length of pores (L) in the outer surface of the filtration layer is designed such that (X) and (Y) fall within the range defined by plotting the following 10 points on the XY plane, where (X) is a particle diameter of particles captured when the particle trapping ratio is equal to or more than 90 % in the case where the filtration is done under an elevated pressure of 0.1 MPa, and (Y) is a value designated as RFL obtained by dividing (L) by (X), that is, (Y = L/X): (X, Y) = (0.055, 2) (1, 1.5) (2, 1) (5, 0.5) (10, 0.3) (10, 4) (5, 6) (2, 10) (1, 15) (0.055, 25)?
>
> We answer this question in the affirmative.

2. Have Appellants shown reversible error in the Examiner's determination that the applied art suggests the following aspect of claim 1:

> the mean maximum length of pores (L) in the outer surface of the filtration layer is designed such that (X) and (Y) fall within the range

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[1] We use the English translations of record for each of these applied references.

> defined by plotting the following 10 points on the XY plane, where (X) is a particle diameter of particles captured when the particle trapping ratio is equal to or more than 90 % in the case where the filtration is done under an elevated pressure of 0.1 MPa, and (Y) is a value designated as RFL obtained by dividing (L) by (X), that is, (Y = L/X): (X, Y) = (0.055, 2) (1, 1.5) (2, 1) (5, 0.5) (10, 0.3) (10, 4) (5, 6) (2, 10) (1, 15) (0.055, 25)?

We answer this question in the affirmative.

FINDINGS OF FACT

1. §112, 2nd Rejection

Figure 1 (reproduced below) of Appellants' Specification depicts the area within which the values of (X) and (Y) fall according to Appellants' claim 1, third paragraph. X can have different values, for example as shown in Figure 9 of Appellants' Specification (see Example 1 versus Example 2).

The third paragraph of claim 1 defines a filter structure which is defined by the combined parameters of the filter grade and RFL, and Appellants' Figure 1 is illustrative.

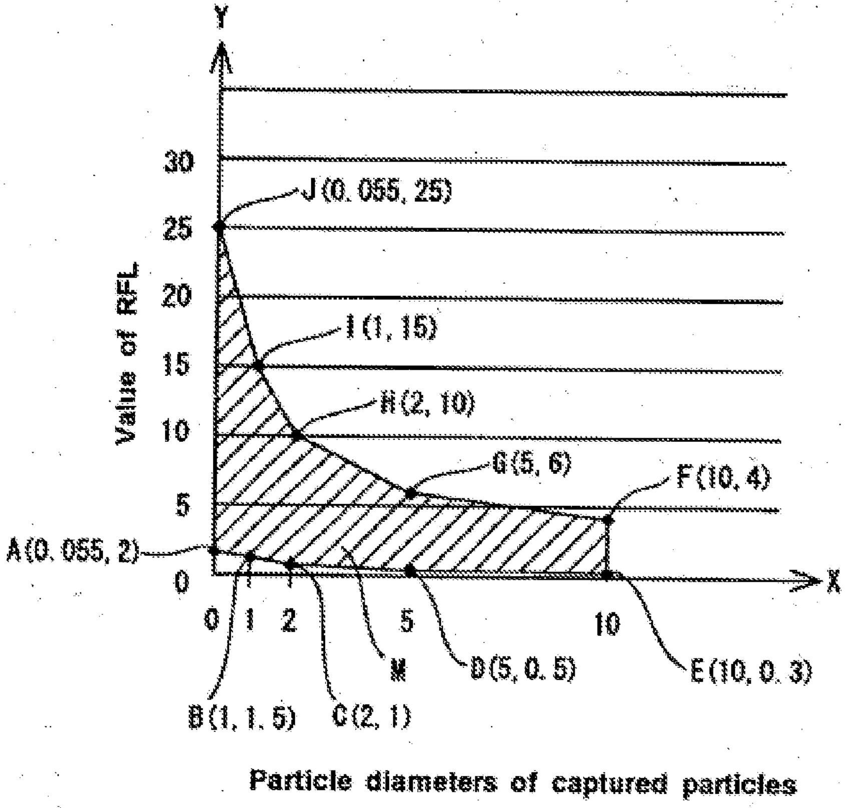

FIGURE 1

2. Obviousness Rejection

The Examiner applies a flawed interpretation of Appellants' claim 1 in making his obviousness rejection.

The Examiner has not pointed to any teaching of the applied art that suggests the claimed feature of Appellant's invention as recited in the third paragraph of the claim, as pointed out by Appellants in the paragraph bridging pages 4-5 of the Reply Brief.

PRINCIPLES OF LAW

1. §112, 2nd Rejection

"The test for definiteness is whether one skilled in the art would understand the bounds of the claim when read in light of the specification. If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." *Miles Lab., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993) (citation omitted); *see also In re Moore*, 439 F.2d 1232, 1235 n.2 (CCPA 1971) (the indefiniteness inquiry asks whether the claims "circumscribe a particular area with a reasonable degree of precision and particularity. It is here where the definiteness of the language employed must be analyzed - not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art.").

2. Obviousness Rejection

When determining whether a claim is obvious, an examiner must make "a searching comparison of the claimed invention – *including all its limitations* – with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added).

ANALYSIS

1. §112, 2nd Rejection

The Examiner's position is that there is no antecedent basis for the terms "(L)" and "(Y)"[2] and that claims 1, 8, and 10 are incomplete regarding the relationship between the variables X, Y and mean maximum length of port and the plot of the ten points. Ans. 3. The Examiner asserts that this limitation does not define any metes and bounds for the claimed structure. Ans. 4. The Examiner also states that the definition of "(X)" is flawed because it does not "afford a constant value of particle diameter for a specified filter." Ans. 11.

Appellants refer to several technical publications listed in their Evidence Appendix for a showing that filter grades are based on "90% trapping ratio for a set particle diameter". Br. 5. The Examiner agrees that a filter can be characterized in such terms, but states that the claim language must be definite. Ans. 11.

In the instant case, Figure 1 of Appellants' Specification depicts the area within which the values of (X) and (Y) must fall according to Appellants' claim 1, third paragraph. Hence, contrary to the Examiner's assertion, the limitation recited in the third paragraph of claim 1 has "a metes and bounds". As such, those skilled in the art would be reasonably apprised of the claim scope, which is sufficient. *Miles Lab., Inc.* 997 F.2d at 875; *In re Moore*, 439 F.2d at 1235 n.2.

Also, X can have different values, for example as shown in Figure 9 of Appellants' Specification (see Example 1 versus Example 2). However, this does not mean that the definition of "(X)" is flawed, as asserted by the Examiner. As explained by Appellants on pages 4-5 of the Reply Brief, the claims define a filter structure which is defined by the combined parameters of the filter grade and RFL, and we refer to Appellants' Figure 1 as illustrative.

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[2] We disagree with the Examiner's position because Y is defined in claim 1 and values of X are provided.

In view of the above, we reverse the Examiner's § 112, second paragraph rejection of the claims.

2. Obviousness Rejection

The Examiner's position is that many filters of different pore size would qualify for the description recited in the third paragraph of Appellant's claim 1. Ans. 12. The Examiner interprets the third paragraph of Appellants' claim 1 as not imparting a distinguishable structure to a filter and submits "there can be a lot of PTFE filters existing that would fall in this group". Ans. 14. The Examiner asserts that what is claimed is "only sorting or selecting an existing filter for a purpose". Ans. 14. With this interpretation of claim 1, the Examiner rejects the claims under 35 U.S.C. § 103(a) as being unpatentable over Morita in view of Yoshida or Nitori.

We disagree with the Examiner's rejection because his interpretation of claim 1 is flawed, as explained above, in our analysis of the § 112, second paragraph rejection.

As explained by Appellants on pages 4-5 of the Reply Brief, the claims define a filter structure which is defined by the combined parameters of the filter grade and RFL, and as illustrated in Appellants' Figure 1. The Examiner has not pointed to any teaching of the applied art that suggests this claimed feature of Appellant's invention, as discussed by Appellants in the paragraph bridging pages 4-5 of the Reply Brief. See Ans. generally. As such, we reverse the obviousness rejection. *In re Ochiai*, 71 F.3d at 1572.

CONCLUSIONS OF LAW

The Examiner erred in his determinations of indefiniteness and obviousness.

DECISION

We reverse each of the rejections.

REVERSED

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